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## NOTICE OF ALLOWANCE AND FEE(S) DUE

7590

09/03/2009

David L. Fehrman  
Morrison & Foerster LLP  
35th Floor  
555 W. 5th Street  
Los Angeles, CA 90013

EXAMINER

FAULK, DEVONA E

ART UNIT

PAPER NUMBER

2614

DATE MAILED: 09/03/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,186	07/09/2003	Hideki Hagiwara	393032038900	3003
TITLE OF INVENTION: DIGITAL COMPRESSOR FOR MULTI-CHANNEL AUDIO SYSTEM				

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	12/03/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE** OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

## HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

# **PART B - FEE(S) TRANSMITTAL**

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 or Fax **(571)-273-2885**

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

7590

09/03/2009

David L. Fehrman  
 Morrison & Foerster LLP  
 35th Floor  
 555 W. 5th Street  
 Los Angeles, CA 90013

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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

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nonprovisional	NO	\$1510	\$300	\$0	\$1810	12/03/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
FAULK, DEVONAE	2614	381-104000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.  
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_  
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_  
 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY AND STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee  
☐ Publication Fee (No small entity discount permitted)  
☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.  
☐ Payment by credit card. Form PTO-2038 is attached.  
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

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This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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David L. Fehrman  
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35th Floor  
555 W. 5th Street  
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## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 817 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 817 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

# Notice of Allowability

## Application No.

10/617,186

## Examiner

DEVONA E. FAULK

## Applicant(s)

HAGIWARA, HIDEKI

## Art Unit

2614

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/2/09.
2. ☒ The allowed claim(s) is/are 1,3-7,9-11,13-15 and 17-22.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Remarks***

1. The applicant amended the claims to overcome the 103(a) rejection. The applicant agreed to an examiner's amendment to place the claims in allowable form.
2. Claims 2,8,12,16 are cancelled.

### **EXAMINER'S AMENDMENT**

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with David T. Yang (Reg. 44,415) on 8/28/09.

The claims are to be amended as follows:

Claim 1 should be amended to recite the following:

Claim 1 (currently amended): A level adjustment method executed in applicable to an audio processing apparatus having a plurality of amplifiers corresponding to three or more of channels of audio signals, ~~which constitute a set of surround signals in a surround system,~~ for inputting the audio signals and amplifying the input audio signals, the level adjustment method comprising:  
a group type select process of selecting a grouping type among a plurality of

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grouping types, according to operation by a user;

a group arrangement process of arranging the plurality of the channels into one or more groups according to the selected grouping type, such that the groupings of the channels are different as between any given two of the grouping types ~~and that, at all times, each of the channels of audio signals belongs to only one of the groups;~~

a detection process of detecting, for each group, a maximal value of the signal levels of the input audio signals of channels belonging to the group; and  
an adjustment process of determining, for each group, a common amplification gain according to the detected maximum value and supplying the determined common amplification gain to the amplifiers of the channels belonging to the group such as to attenuate the output levels of the input audio signals if the maximum value exceeds a threshold level .specified by the user

wherein said three or more channels of audio signals constitute a set of surround signals in an ordinary surround system and are grouped together into one or more groups during said group arrangement process, wherein each of the channels of audio signals belongs to only one of the groups and

wherein, when the maximum signal level is below the threshold level, the adjustment process is performed to maintain the common amplification gain, when the maximum signal level exceeds the threshold level, the adjustment process is performed to attenuate the level of the input audio signals.

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Claim 11 is to be amended to recite the following:

Claim 11 (currently amended): A level adjustment method ~~applicable to~~ executed in an audio processing apparatus having a plurality of amplifiers corresponding to three or more of channels of , audio signals, ~~which constitute a set of surround signals in a surround system,~~ for inputting the audio signals and amplifying the input audio signals, the level adjustment method comprising:

a group type select process of selecting a grouping type among a plurality of grouping types, according to operation by a user;

a group arrangement process of arranging the plurality of the channels into one or more groups according to the selected group type, such that the groupings of the channels are different as between any given two of the grouping types ~~and that, at all times, each of the channels of audio signals belongs to only one of the groups;~~

a detection process of detecting, for each group, a maximal value of the signal levels of the input audio signals of the channels belonging to the group; and  
an adjustment process of determining, for each group, a common amplification gain according to the detected maximum value and supplying the determined common amplification gain to the amplifiers of the channels belonging to the group so as to attenuate the level of the output audio signals if the maximum value exceeds a threshold levels specified by the user,

wherein said three or more channels of audio signals constitute a set of surround signals in an ordinary surround system and are grouped together into one or

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more groups during said group arrangement process, wherein each of the channels of audio signals belongs to only one of the groups;

wherein, when the maximum signal level is below the threshold level, the adjustment process is performed to maintain the common amplification gain, when the maximum signal level exceeds the threshold level, the adjustment process is performed to attenuate the level of the input audio signals, and wherein the common amplification gain is determined such that the excess of the maximum value is suppressed in accordance with a ratio specified by the user.

Claim 15 is to be amended to recite the following:

Claim 15 (currently amended): An audio processing apparatus comprising: a plurality of amplifiers corresponding to three or more of channels of audio signals, ~~which constitute a set of surround signals in a surround system,~~ for amplifying signal levels of the respective channels; a group type select section that, in response to user operation, selects a desired grouping type among a plurality of grouping types; a group arrangement section for arranging the plurality of the channels into one or more group according to the selected grouping type, such that the groupings of the channels are different as between any given two of the grouping types ~~and that, at all times, each of the channels of audio signals belongs to only one of the groups;~~



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a detection section that detects, for each group, a maximal value of the signal levels of the input audio signals of the channels belonging to the group; and  
an adjustment section that determines, for each group, a common amplification gain according to the detected maximum value and supplying the determined common amplification gain to the amplifiers of the channels belonging to the group so as to attenuate the output levels of the input audio signals if the maximum value exceeds a threshold level specified by the user,  
wherein said three or more channels of audio signals constitute a set of surround signals in an ordinary surround system and are grouped together into one or more groups during said group arrangement process, wherein each of the channels of audio signals belongs to only one of the groups;

and

wherein, when the maximum signal level is below the threshold level, the adjustment process is performed to maintain the common amplification gain, when the maximum signal level exceeds the threshold level, the adjustment process is performed to attenuate the level of the input audio signals.

Claim 17 is to be amended to recite the following:

Claim 17 (currently amended): A graphic user interface installed in an audio processing apparatus having a plurality of amplifiers corresponding to three or

more of channels of input audio signals, ~~which constitute a set of surround signals in a surround system,~~ for amplifying the input audio signals, the graphic user interface being designed for assisting the audio processing apparatus in performing a level adjustment method comprising a group arrangement process of arranging the plurality of the channels into one or more group, and a group control process of controlling each group such as to attenuate the output levels of the input audio signals belonging to the same group as a maximal value of the signal levels of the input audio signals belonging to the group increases, wherein the graphic user interface provides:

a visual symbol prompting the user to select a desired grouping type among a plurality of grouping types, the grouping of the channels at the group arrangement process is controlled according to the selected grouping type, such that the groupings of the channels are different as between any given two of the grouping types; and

another visual symbol prompting the user to input parameters, including a threshold level, effective to determine how the output audio signals is attenuated according to the maximal signal level during the group control process wherein said three or more channels of audio signals constitute a set of surround signals in an ordinary surround system, wherein, ~~at all times,~~ the group arranged by the group arrangement process are different between any two of the grouping types and each of the channels of audio signals belong to only of the groups, wherein each of the channels of audio signals belongs to only one of the groups

, and wherein, when the maximum signal level is below the threshold level, the group control process is performed to maintain the common amplification gain, when the maximum signal level exceeds the threshold level, the adjustment process is performed to attenuate the level of the input audio signals.

Claim 19 is to be amended to recite the following:

Claim 19 (currently amended): An audio processing apparatus comprising: a plurality of amplifiers corresponding to three or more of channels of input audio signals: ~~which constitute a set of surround signals in a surround system, for~~ amplifying the input audio signals;

a group type select section of selecting a grouping type among a plurality of grouping types, according to operation by a user

a group arrangement section that arranges the plurality of the channels into two or more groups according to the selected grouping type, such that the groupings of the channels are different as between any given two of the grouping types ~~and that, at all times, each of the channels of audio signals belongs to only one of the groups;~~

a detection section that detects, for each group, a maximal value of the signal levels of the input audio signals of the channels belonging to the same group;

and

an adjustment section that determines, for each group, a common amplification gain according to the detected maximum value and supplying the determined common amplification gain to the amplifiers of the channels belonging to the

group so as to attenuate the level of the output audio signals if the maximum value exceeds a threshold level specified by the user, wherein said three or more channels of audio signals constitute a set of surround signals in an ordinary surround system and are grouped together into one or more groups during said group arrangement process, wherein each of the channels of audio signals belongs to only one of the groups.

wherein, when the maximum signal level is below the threshold level, the adjustment process is performed to maintain the common amplification gain, when the maximum signal level exceeds the threshold level, the adjustment process is performed to attenuate the level of the input audio signals, and wherein the common amplification gain is determined such that the excess of the maximum value is suppressed in accordance with a ratio specified by the user.

Claims 1,3-7,9-11,13-15,17-22 are allowed. The following is an examiner's statement of reasons for allowance: Regarding claims 1,11,15, 17,19 prior art Bizjak (US 7,212,640) discloses a level adjustment method applicable to an audio processing apparatus, the level adjustment method comprising: A group type select process of selecting a grouping type among a plurality of grouping types, according to operation by a user (column 30, line 55-65; Figures 8C-8G);

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A group arrangement process of arranging the plurality of the channels into one or more group according to the selected grouping type (column 30, line 55-column 31, line 12);

A detection process of detecting, for each group, a maximal value of the signal levels of the input audio signals or channels belonging to the group (column 31, lines 25-42); and

An adjustment process of determining, for each group, a common amplification gain according to the detected maximum value and supplying the determined common amplification gain to the amplifiers of the channels belonging to the group such as to attenuate the output levels of the input audio signals if the maximum value exceeds a threshold specified by the user (column 32, lines 25-35; column 33, line 64-column 34, line 25).

Bizjak teaches of inputs having associated input level adjusters (column 34, lines 47-51).

Prior art Suzuki (US 5,054,077).

discloses groupings of channels that are different as between any given two of the grouping types (See Figure 4; column 3, lines 41-60).

Regarding claims 1,11,15,17,19 the prior art or combination thereof fails to disclose or make obvious wherein, wherein said three or more channels of audio signals constitute a set of surround signals in an ordinary surround system and

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are grouped together into one or more groups during said group arrangement process, wherein each of the channels of audio signals belongs to only one of the groups.

Claims 3-7,9,10,13,14,18,20-22 are allowed due to dependency on claims 1,11,15,17 and 19.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEVONA E. FAULK whose telephone number is (571)272-7515. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devona E. Faulk/  
Primary Examiner, Art Unit 2614